

STATE OF ARIZONA 9-1-1 PROGRAM

Arizona Department of Administration
Information Services Division



October 2005

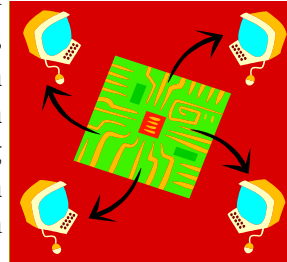
Dual Tandem Completes... "Mesh" Begins

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Qwest recently completed a project creating redundancy in their 9-1-1 network. They did so by programming their existing selective routers to provide backup capabilities in case of a selective router failure within their respective LATAs (Local Access Transport Area). The project also included adding a new selective router in the Tucson LATA since it previously was tended by only one in Tucson East Central Office.

Although the routers handling, only one in Southeast and Tucson primary router. As long intertandem transfer can LATAs. If one of them not exist.



"mirror" each other for call each LATA (Phoenix East) is considered the as they remain functional, be accomplished between fails, that capability would

Qwest is in the process of providing information on design and cost which would "mesh" the four tandems in the State giving true "total" redundancy to the 9-1-1 network. Unlike the Dual Tandem project which required changes to your PSAP trunking, the Mesh project will involve design changes and/or additions at the Qwest level only. Look for more information via e-mail as this project unfolds. It is yet another step in improving service for the citizens of our State. For inquiries, please contact Maria Hall at 602.771.4911.

9-1-1 Technology Forum

Sometimes a little bit of knowledge can go a long way.
Mark your calendars!



The State 911 office will conduct a free seminar discussing some topics of interest. The overviews are basic and meant to provide helpful information for PSAP personnel.

It will be held in Phoenix on Thursday, Dec. 1st at the ADOA Building: 100 N. 15th Ave, Room 300A in Phoenix. The forum will run from 9AM until 3PM. Morning refreshments will be provided.

The following subjects will be presented:

- **VoIP – Non technical, what a PSAP can expect to see.**

- **GIS – Practical overview and how it relates to 9-1-1**
- **CENS (Community Emergency Notification System)**
- **Internet Security**
- **Purchasing Do's & Don'ts**

Look for more info via e-mail during Nov. For inquiries, please contact Maria Hall at 602.771.4911.

9-1-1 News

State 9-1-1 Equipment Contract Extended

Due to some equipment issues, the proposed RFP (Request for Proposal) for new State 9-1-1 equipment was cancelled. In light of that development, the current contract has been extended through June 2006. Qwest Communications is now authorized to provide Plant and Positron equipment throughout Arizona. Frontier Communications can provide TCI equipment in their primary serving area.

If you have budget approval to upgrade or replace your existing equipment, please contact one of the vendors listed above.

Should you need a contact telephone number, please call either Barbara Jaeger 602-542-0911 or Maria Hall 602-771-4911 for additional info.

It's Not Too Soon

FY07 budget packets will be distributed to 9-1-1 System Coordinators in October. The statutory deadline for these submissions is December 15, 2005. If your PSAP is eligible for equipment upgrades, it's not too soon to contact eligible vendors for pricing. Budgetary quotes and necessary justifications are required with budget submittals.

FY2006 Budget Information

On September 1, the Arizona Joint Legislative Budget Committee met to consider approval of the Emergency Telecommunication Services Revolving Fund Expenditure Plan.



The JLBC staff recommended the committee give a favorable review to the \$13.4 million wireless portion of the expenditure plan, with the provision that ADOA 9-1-1 Office report back to the committee by April 1, 2006.

The information that will be included in the upcoming report is long-term revenues and expenditures, estimated costs for Phase I and Phase II; as well as historical cost to support ongoing services for each of the following – basic 9-1-1, enhanced 9-1-1 with both ANI and ANI/ALI, and Phase I and Phase II. It will also include the current annual operating costs and projected annual operating costs assuming fully deployed enhanced wireless services.

The total budget for FY06 is \$34.7 million which includes \$16.2 million for new equipment and upgrades for PSAPs.

As a reminder, there is a tax reduction slated for FY07 which reduces the 9-1-1 excise tax from \$.37/month to \$.28/month on wireline and wireless services.

9-1-1 Professional Services Contract

The State 9-1-1 Office is pleased to announce that the 9-1-1 Professional Services contract has been awarded. The successful bidders have been placed on a list of preferred vendors who may perform various services around the state – ranging from GIS development to training. The contract can be viewed by logging on to: www.spirit.az.gov — search 9-1-1.

This contract coincides with a \$1 million GIS grant that the State received earlier this year. The grant will be used toward the development and enhancement of GIS data in the counties of Graham, Pinal and Santa Cruz. These three counties currently have Wireless Phase I deployed, yet lack valid GIS data to move toward wireless Phase II. Completing the necessary GIS work in these counties will enable the State to fund the network and equipment components associated with deployment of Phase II (per *The State of Arizona Phase I & II Wireless Implementation Plan*).

Individual kickoff meetings for the aforementioned GIS projects are currently being scheduled.

Enhanced Wireless

City of Winslow

The City of Winslow is the newest 9-1-1 jurisdiction to offer their citizens the benefits of Phase I service. Mary Sanchez, Winslow Police Department, worked with the State's 9-1-1 Office and 3 carriers to deploy Phase I. Testing and turn up completed on August 2nd.

On September 9th Ms. Sanchez retired after 30 years of service, but not before leaving her mark and making a huge contribution to Winslow's public safety community and the citizens of Winslow.

Maricopa County

Maricopa is the second county in the state to turn-up Phase II wireless (PIIW) service. Project completion is slated for the end of November.

Their project was quite extensive and went beyond the normal implementation. As with all enhanced wireless projects, they worked with the wireless carriers (in their case 9) to review cell sites and sectors to determine routing, defined the content of the ALI records, and tested each and every site/sector. In addition to that, however, they also built a 9-1-1 platform based on two CML selective routers.

For more information about Maricopa Region's Phase II project and system, see the "Maricopa Region 911 Provides a Unique Solution for Phase II" on page 4.

Yavapai County (northern area)

Camp Verde, Cottonwood, Sedona and the county areas in the northern part of Yavapai County have requested Phase II service from the wireless carriers. On September 15th a request for service letter was sent to all carriers doing business in Arizona. This sets the 6-month clock that the carriers must adhere to in provisioning PIIW.

In preparation for Phase II, much work has already been accomplished. Terry Schleizer, Sedona FD, has been named the 9-1-1 Wireless Administrator for the area. It is her agency, with input from GIS sources throughout the county, that developed the GIS file that will be used to display the Phase II wireless caller's location. In addition, all PSAPs in that area (Camp Verde MO, Cottonwood PD, Sedona PD, and Yavapai County SO) have installed new mapping equipment. (Sedona FD was already equipped.)

A lot of work remains, but it will be accomplished through the efforts and input from each of the public safety agencies. Completion is targeted for the spring of 2006.



Maricopa Region 911 Provides a Unique Solution for Phase II

Shortly, Maricopa Region 911 (MR911) will complete the implementation of the State's second, and largest, Phase II Wireless system. They set out to meet specific objectives and were successful in their endeavors. MR911 comments on the project.

Goal

MR911 wanted the capability to route the wireless 9-1-1 calls coming into the 26 PSAPs that lie within the region. This would require MR911 to have its own selective routers and not rely on the local telephone company.

Mapping was another aspect of the wireless project. All PSAPs would need to have accurate mapping info to help locate the wireless caller.

Solution

To achieve the goal of routing wireless 9-1-1 calls, two network centers were established. One is located in Phoenix, and the other in Mesa. This provided mirrored sites that could handle the call volume and provide redundancy.

Maps were installed in May of 2004 and all personnel received training on how to use and read the map. Installing the map one-year prior to the Phase II implementation, allowed the PSAP employees to learn how to use the system and gain a comfort level needed for the enhanced wireless service to come.

Additionally, Phase II training was provided to PSAP personnel February through April of 2005. This enabled the PSAPs to get detailed training as close to the wireless cut-over as possible; leaving little lag time for employees to forget the necessary tools needed on handling a wireless 9-1-1 call.

Implementation started on May 2, 2005 as the first wireless carrier started testing the cell towers to ensure they were passing the correct information and routing correctly. A total of nine carriers are in the region with each needing to test every cell tower and each sector; this is approximately a total of 6,300 sectors.

Roadblocks

Each PSAP required equipment modification to give them the ability to receive Phase II calls. Some PSAPs required extra equipment and work, which delayed their Phase II abilities.

Wireless carriers handled testing differently and each had their own set of issues. This made testing confusing and time consuming at times. Some carriers had clean data, which required little changes while others had major issues with their data. These major issues would draw out testing longer than originally scheduled, putting the project as much as four weeks behind schedule.

Successes

The Maricopa Region 911 covers over 9,000 square miles and not many markets the size of Phoenix have implemented Phase II this smoothly. There are very few agencies that handle wireless 9-1-1 routing and this should be looked upon as a great accomplishment. All in all, the Phase II project has been a great undertaking.

2005 ESRI User Conference Update

by Adam Iten

SAN DIEGO, CA - This year marked the 25th anniversary of the ESRI International User Conference. It was my second ESRI Conference appearance in as many years and it proved to be as loaded with cutting edge GIS information as those in the past.

The ESRI International User Conference brings together thousands of GIS users from all over the world. It provides a wonderful opportunity for the GIS community to share projects, experiences, and ideas stemming from every imaginable subject area. My obvious interest was finding out how to better apply GIS to 9-1-1. At this year's conference, I was able to discover several new 9-1-1/GIS uses through unrelated GIS presentations.

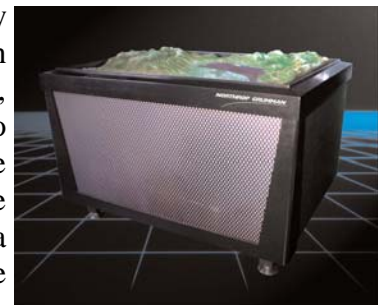
During the opening plenary session, the senior ESRI staff introduced a number of new concepts and tools. One tool that stuck out in my mind was the GeoChat Messaging Service. You are probably familiar with Instant Messaging (IM) programs, such as, MSN, Yahoo, or AOL's Instant Messenger. Well, ESRI has joined forces with Microsoft to develop a map-based IM service. GeoChat allows remote GIS users to both communicate via IM and share map images with one another. I see this application as a useful communication tool for MSAG Coordinators, GIS Departments, and anyone else involved with maintaining GIS data for a 9-1-1 system.

Another interesting concept that caught my attention was the three dimensional imagery. The use of 3D images is old hat in GIS; however, computers with improved memory and power are now capable of storing more data and displaying graphics with higher accuracy. I began to think about its use in 9-1-1. Imagine being able to locate a caller using a 3D image or how emergency responders could plan accordingly en route to the scene of a disaster. Someday 3D images will save lives and improve response times during emergencies.

3D scene of Columbus, OH >



The final highlight of the plenary session was, the TouchTable™. The TouchTable™ is a digital map table with a touch screen that allows users to navigate around the globe. Individuals gather around the table and anyone who wishes to pilot the global exploration simply bumps the edge of the table to gain access to its controls. Large touchable buttons appear before them, permitting full use of the TouchTable™ features. Users are able to draw on the map as though coloring with finger-paint. When we (an auditorium full of GIS geeks) thought we had seen it all, the presenter zoomed into the tallest peak in southern Nevada. Like a scene from a science fiction movie, the map table surface began to rise until it resembled Mt. Charleston. The entire audience was floored.



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Stages of VoIP 9-1-1

There are three “solutions” that exist to process a 9-1-1 call from a VoIP (Voice over Internet Protocol) user to a PSAP. The three methods outlined below have been identified by NENA (National Emergency Number Association).

I1 – 9-1-1 calls complete to a specific 10 digit number at the PSAP. This can be an administrative line or in the case of Arizona should be a new VoIP 9-1-1 trunk installed earlier this year. Only selected PSAPs in each Arizona county had these trunks installed to receive these 9-1-1 calls. That designated PSAP would transfer the call, if necessary, to the correct PSAP for dispatch. No ANI or ALI would be received on this call.

I2 – VoIP 9-1-1 call is delivered to the PSAP over existing trunks with ANI and ALI. This is accomplished since the VoIP provider has connectivity to the 9-1-1 selective router.

I3 – Also known as “Next Generation 9-1-1” (NG911) is a totally new internet based network for the PSAPs. This is still very much in the developmental stage.

The government has recently issued rulings in an attempt to ensure that VoIP customers will be able to have the same level of service for 9-1-1. In May of this year they released an order requiring interconnected VoIP service providers to provide E9-1-1 capabilities to their subscribers in all regions that are capable of E9-1-1 no later than 120 days from the effective date of the order. The effective date of the order is July 29, 2005. Additionally set forth in the order all providers are required to do the following:

- Specifically advise every new and existing subscriber, prominently and in plain language, of the circumstances under which



E9-1-1 service may not be available through the VoIP service or may be in some way limited by comparison to traditional E9-1-1 Service.

- Obtain and keep a record of affirmative acknowledgement by every subscriber, both new and existing, of having received and having an understanding of the information given concerning 9-1-1. If such acknowledgement was not received from the subscriber by 8/29/05, the VoIP provider must have disconnected their service by 8/30/05.
- Distribute to its existing subscribers warning stickers or other appropriate labels warning subscribers that E9-1-1 service may be limited or not available and instructing the subscriber to place them on or near the equipment used in conjunction with the VoIP service. If the subscriber is new, such labels need to be distributed prior to initiation of the service.

For areas where PSAPs are not capable of receiving or processing the location information or call back number that is automatically provided with E9-1-1 calls, the VoIP providers must ensure that the call is routed to the appropriate PSAP.

The 120 day deadline for the “I2” stage per the FCC order is 11/28/2005. On 8/5/2005 NENA released a standards document entitled “Interim VoIP Architecture for E9-1-1 Services” meant to be used as a guide for the designers and manufacturers of systems that are used for the purpose of processing emergency calls moving the VoIP provider into Stage I2.

More information will be made available as we approach the 11/28 deadline. Feel free to contact Maria Hall with any questions at 602.771.4911 or Email her at: maria.hall@azdoa.gov

Voice over Internet Protocol (VoIP) is growing at a dramatic rate in Arizona as well as the nation. It presents unique situations at our PSAPs which may or may not be expected. We have had issues with misrouting caused by database errors, inability to transfer to another PSAP as well as contacts from VoIP companies and end users requesting a “test” to ensure they can reach 9-1-1. We are only beginning to discover issues that occur when the two networks (Internet and traditional 9-1-1) attempt to converge. Since the reason for them can be many and some analysis may be required to resolve them, we encourage you to contact Maria Hall in our office to assist in these situations. **Please provide as much information as you can such as:**

- **Did the call come in on a Wireline 911 trunk, VoIP 911 trunk or administration line?**
- **Provide the telephone number associated with the 9-1-1 trunk or line if possible.**
- **What were the caller’s name, number and address?**
- **Who is their VoIP provider?**
- **Date and time of call**
- **What exactly happened in your efforts to handle the call?**

Maria will work with the VoIP provider to sort through what the current process is for that company and attempt to resolve the issue. She can be reached at 602-771-4911 maria.hall@azdoa.gov

Tips For VoIP Subscribers

If you or a family member are considering subscribing to a Voice over Internet Protocol (VoIP) service you should:

- **Be sure to provide your accurate physical address to your VoIP provider to ensure emergency services can be quickly dispatched to your location.**
- **Be familiar with your VoIP provider’s procedures for updating your address and promptly update address information in the event of a change**
- **Make sure you have a clear understanding of any limitations of your 9-1-1 service.**
- **Inform children, babysitters, and visitors about your VoIP service and its 9-1-1 limitations, if any.**
- **If the power is out or your broadband internet connection is down, be aware that your VoIP service may also be out. Consider installing a backup power supply, maintaining a traditional phone line and analog phone as a backup, or having a cellular phone as a backup.**

This information is taken from an FCC Consumer Advisory on VoIP and 9-1-1 Service.

2005 ESRI User Conference Update


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I had a wonderful time at this year’s ESRI International User Conference and look forward to the new ideas and inspirations that await next year’s GIS jamboree.


I want to send a special thank you to Kevin Blake (GIS Manager, Yavapai County GIS Department) for providing the State 9-1-1 Office with a free pass to the ESRI Conference.

Please contact Adam Iten, State 9-1-1 GIS Coordinator, adam.iten@azdoa.gov with any questions/comments regarding this article.


Around Arizona




A significant amount of work has been going on around the state. There are still areas of the State which are not eligible for funding out of the 9-1-1 program. We work with those communities to meet the criteria in order to be eligible. There are areas of the state that only have basic 9-1-1 or Enhanced 9-1-1 with Automatic Number Identification (ANI) only. Additionally, we continue to work with communities who are completing addressing and data base preparation for Enhanced 9-1-1 with ANI and Automatic Location Identification (ALI). Projects are also underway to deploy wireless Phase I and Phase II and to work with the Voice over the internet providers to ensure that calls are routed to the most appropriate PSAP.




Pima County completed deployment of wireless Phase II with 8 carriers. There is still one carrier providing Phase I service which has an FCC exemption. Maricopa Region has nearly completed deployment of Phase II with 9 carriers. They anticipate completing the final carrier by the end of November 2005.




Request for service letters have been sent to the wireless providers for deployment of Phase II in the northern Yavapai area. This project includes PSAPs for Camp Verde Marshal's Office, Cottonwood PD, Sedona FD, Sedona PD and Yavapai County Sheriff's Office. This project is scheduled to complete in April 2006.




Graham, Pinal and Santa Cruz Counties have successfully deployed wireless Phase I. The only component they are lacking to transition to Phase II is the GIS data. The State 9-1-1 Office received a grant from the PSAP Readiness Fund to complete the GIS. The State issued a request for proposal (RFP) to establish a list of qualified consultants to complete this task. The award has been made and the GIS projects will begin immediately.




The cities of Page and Winslow have successfully completed their Wireless Phase I projects.




Cochise County is still working to complete their enhanced 9-1-1 Project. They are working through some customer record issues with one of the independent local exchange carriers. Once those corrections are made and confirmed, another simulation will be run. Enhanced 9-1-1 is already provided in Benson, Ft. Huachuca, Huachuca City, Douglas, Sierra Vista and Wilcox. Once this project completes, the City of Bisbee, Tombstone and the remainder of the unincorporated area will also have enhanced 9-1-1. As a side note, funds have been provided to Cochise County GIS for developing the layers necessary to move toward deployment of wireless Phase II.



Addressing in the unincorporated areas of southern Yavapai County and Chino Valley has been completed. This area is also in the process of completing their data base prep project. Once completed, wireline enhanced 9-1-1 will be available in all of Yavapai County and selective routing will be invoked.



Gila County continues to work on their addressing project. The City of Payson already has Enhanced 9-1-1, but the remainder of the county is Enhanced w/ANI.



The City of Williams and Gila River Tribe are both working toward deployment of enhanced wireline 9-1-1.

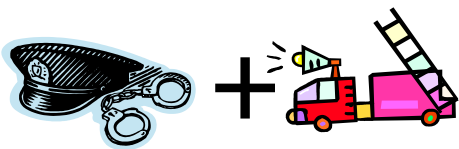
Comings and Goings

Mary Sanchez, Winslow PD recently retired and has been replaced by Jackie Ratto. Maggie Williams, Oro Valley PD also recently retired and has been replaced by Nancy Anderson.

Susan MacFarlane, Maricopa Region 9-1-1 Administrator and Sharon Schauer, Flagstaff PD recently resigned. Liz Hunt is Interim Maricopa Region 9-1-1 Administrator and Deputy Chief Bob White is Interim Flagstaff System Coordinator.

Dustin Miranda is the new Sedona PD PSAP Manager and Ed Syzponik is the new Wickenburg PD PSAP Manager.





9-1-1 News

Now They Are One.....

After more than three years of planning and preparation, the Prescott Police Dept. and Prescott Fire Dept. 9-1-1 centers recently relocated to a newly renovated facility and formed the Prescott Regional Public Safety Communications Center. The move to 216 S. Cortez, Prescott, AZ. 86303, took place on August 10th at 4AM.

The new center is staffed 24 x 7 by the personnel from both Prescott PD and Prescott FD. There are a total of 10 active positions with an additional two positions for near future growth. The State was able to assist in the financial needs of the project by funding the upgrade of equipment which was scheduled for both 9-1-1 centers at the time of their move.

Initial participating agencies in the consolidation include Prescott Fire Dept., Yavapai Central Fire Dept., Prescott Police Dept., Prescott Valley Police Dept. and Yavapai College Campus Police Dept. There are also several other fire departments receiving fire dispatch services through the center. They are Chino Valley Fire Dept., Mayer Fire District, Black Canyon Fire District and Groom Creek Fire District.

The facility will be capable of accommodating and providing communications dispatch services in the future to the following agencies should they choose to join: Prescott-Yavapai Tribal Police Dept, Chino Valley Police Department and Yavapai County Sheriff's Office.

Arizona APCO-NENA Training Conference - January 18-20, 2006



Don't forget to mark your calendars for:

APCO-NENA Training Conference being held at Grace Conference Center in Ahwatukee, AZ. Information on the registration, training opportunities and vendor show is available at: www.az-apco-nena.org

Sedona Call -Taker Receives Lifesaving Award

Each year the American Red Cross Grand Canyon Chapter recognizes local heroes for their courage and actions. In the Spring, they named the recipients of this year's Compassion in Action Lifesaving Awards. Among the recipients was Sedona Fire Department 9-1-1 Call Taker, Beverly Petska.

On May 17th, awards were presented at a luncheon ceremony hosted by Phoenix TV news commentator, Kent Dana. **Ms. Petska was on hand to receive the chapter's 2005 "Lifesaving" award.**



In presenting the award the Red Cross writes: "Listening to the 9-1-1 call was heart wrenching as the parents were frantically trying to save the life of their child. Beverly Petska, Communications Specialist Supervisor for the Sedona Regional Communications Center, immediately took control in a calm and caring manner. She alerted the response team, immediately began to instruct the parents in CPR and repeated the instructions over and over until she heard the child begin crying and the rescue unit arrived on scene. Beverly is trained to respond daily to life and death situations, but it is her calm and caring attitude as well as her ability to direct the actions of those on scene that demonstrate **her extraordinary commitment to saving lives** – the attitude and ability that saved the life of a child before the responders even arrived."

Congratulations to Ms. Petska for an outstanding job!

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